#12 Thompson Translation Declaration

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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TAKEHIRO YOSHIDA	)	
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Application No.: 08/395,588	)	
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Filed: February 28, 1995	)	
	:	
For: COMMUNICATION APPARATUS FOR SELECTING A COMMUNICATION PROTOCOL COMPATIBLE TO A PARTNER STATION AND EXECUTING THE SELECTED PROTOCOL	)	
	:	October 23, 1996

The Assistant Commissioner for Patents
Washington, D.C. 20231

SUBMISSION OF SWORN TRANSLATION

Sir:

Further to the Amendment dated August 23, 1996, enclosed is the sworn translation of the priority document in connection with the above-identified application.

The Examiner is respectfully requested to pass this case to issue.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 758-2400. All

correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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D E C L A R A T I O N

I, MASAO OKABE, a Japanese Patent Attorney registered No. 6444, having my business office at No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo, Japan, hereby declare that I have a thorough knowledge of Japanese and English languages, and that the attached pages contain a correct translation into English of the application documents of Japanese Patent Application No. 6-31386 filed on March 1, 1994 in the name of CANON KABUSHIKI KAISYA.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 4th day of October, 1996.

Masao Okabe

MASAO OKABE

PATENT OFFICE
JAPANESE GOVERNMENT

This is to certify that the annexed is a true copy of the following application as filed with this office.

Date of Application: March 1, 1994

Application Number: Japanese Patent Application No. 6-31386

Applicant(s): CANON KABUSHIKI KAISHA

March 31, 1995

Director-General,

Patent Office AKIRA TAKASHIMA

(Seal)

Certificate No. 07-3013935

6-31386

[Name of the Document]	Patent Application
[Reference No.]	2716014
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[Title of the Invention]	Facsimile Apparatus
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6-31386

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Specification

[TITLE OF THE INVENTION]

Facsimile Apparatus

[WHAT IS CLAIMED IS:]

[Claim 1]

A facsimile apparatus capable of detecting telephone number information transmitted between calling signals, said apparatus comprising means for storing a communication type of a partner station corresponding to the telephone number information and means for detecting the calling signal, wherein said apparatus starts communication of the stored type corresponding to the telephone number information transmitted between the calling signals, when the calling signal is detected.

[Claim 2]

An apparatus according to Claim 1, wherein when said telephone number information transmitted between the calling signals is that transmitted from a partner station with which said apparatus has not communicated before, said apparatus executes a communication operation compatible with any communication type because of an unknown communication type of the partner station and stores

a type of communication as conducted, and after a predetermined period passes or a predetermined number of times of communication are executed thereafter, said apparatus again determines a communication type of the same partner station and stores a communication type as determined.

[Claim 3]

An apparatus according to Claim 2, wherein when an incoming call directed to the stored telephone number information between the calling signals to which the communication type corresponds is selectively received, the communication type is stored.

[Claim 4]

An apparatus according to Claim 1, wherein said communication type varies according to a type of a modem.

[Claim 5]

An apparatus according to any of Claims 1 to 4, wherein said communication type includes a communication type based on V.21, V.27ter, V.29 and V.17, and a communication type based on V.8 and V.34.

[DETAILED DESCRIPTION OF THE INVENTION]

[0001]

[Field of Industrial Utilization]

The present invention relates to a facsimile

apparatus and more particularly to a facsimile apparatus having a plurality of communication types (or systems).

[0002]

[Prior Art]

Conventionally, as a facsimile apparatus having a plurality of communication types, there have been available the ones of G1, G2 and G3 modes.

[0003]

The G1, G2 and G3 modes are not compatible with one another, so that it takes more time to execute protocols compatible with a plurality of communication modes than protocol for only one communication mode because the former should sequentially execute the protocols in the respective modes.

[0004]

[Problems to be Solved by the Invention]

However, the above-mentioned conventional facsimile apparatus has such drawbacks that a time required for the protocols to be executed until any of the plurality of communication modes is determined is long and there is a fear that an erroneous communication type is adopted.

[0005]

In particular, in a case that a communication system of V.fast (ITU-TSS V.34) - V.id (ITU-TSS V.8)

which is now being discussed in the ITU-TSS is supported, such a problem associates that the above mentioned drawbacks become more conspicuous.

[0006]

The present invention has been contemplated in order to solve the above mentioned problems associated with the prior art. Accordingly, an object of the present invention is to provide an apparatus capable of conducting a first communication system based on V. 21, V. 27 ter, V.29 or V. 17 and a second communication system based on V. 8 or V.34, and capable of determining one of the above mentioned communication systems with no error and in a short period of time.

[0007]

[Means for Solving the Problems and Operation of the Invention]

According to the present invention, there is provided a facsimile apparatus capable of detecting telephone number information transmitted between calling signals, said apparatus comprising means for storing a communication type of a partner station corresponding to the telephone number information and means for detecting the calling signal, wherein said apparatus starts communication of the stored type corresponding to the telephone number information transmitted between the calling

signals, when the calling signal is detected.

[0008]

[Embodiments]

(Embodiment 1)

Next, the present invention will be described in detail based on preferred embodiments thereof shown in the drawings.

[0009]

Fig. 1 shows a block diagram of an embodiment of a facsimile apparatus of the present invention.

[0010]

In Fig. 1, numeral 2 denotes a CML relay which connects a telephone line (signal lines 2a, 2b) to a facsimile communication unit (signal lines 14a, 14b) when a signal level '1' is outputted to a signal line 54a, and connects the telephone line (signal lines 2a, 2b) to a telephone set (signal lines 10a, 10b) when a signal level '0' is outputted to the signal line 54a.

[0011]

Numeral 4 denotes a TEL relay for detecting non-ringing call reception and an off-hook state during communication. It connects signal lines 6a, 6b to the signal lines 10a, 10b when the signal level '1' is outputted to a signal line 54b, and connects the signal lines 6a, 6b to signal lines 8a, 8b when the signal level '0' is outputted to

the signal line 54b. When the signal level '0' is outputted to the signal line 54b, an off-hook detection circuit 8 determines whether the telephone set is in the off-hook state or not, and if it is in the off-hook state, it outputs the signal level '0' to a signal line 8c.

[0012]

Numeral 6 denotes a telephone set.

[0013]

Numeral 10 denotes a call signal detection circuit which receives the signals on the signal lines 10a and 10b, and outputs the signal level '1' to the signal line 10a when it detects a call signal and outputs the signal level '0' to the signal line 10a when it does not detect the call signal.

[0014]

Numeral 12 denotes a circuit for detecting telephone number information sent between the call signals. It outputs the detected telephone number information to a signal line 12a.

[0015]

Numeral 14 denotes a hybrid circuit for separating a transmission signal from a reception signal. Namely, the transmission signal on a signal line 30a is sent to the telephone line through signal lines 14a, 14b and the CML relay 2.

A signal sent from other station is outputted to a signal line 14c through the CML relay 2 and the signal lines 14a, 14b.

[0016]

Numeral 16 denotes a modulator for modulating a signal in accordance with the well known CCITT Recommendation V. 21. The modulator 16 receives a protocol signal on a signal line 54c, modulates it and outputs the modulated data to a signal line 16a.

[0017]

Numeral 18 denotes a modulator for modulating a signal in accordance with V. 8 of which recommendation is now being investigated. The modulator 18 receives a protocol signal on a signal line 54d, modulates it and outputs the modulated data to a signal line 18a.

[0018]

Numeral 20 denotes a Q·PSK modulator for a protocol between image transmission pages based on V. fast of which recommendation is now being investigated. The modulator 20 receives a protocol signal on the signal line 54e, modulates it and outputs the modulated data to a signal line 20a.

[0019]

Numeral 22 denotes a read circuit which sequentially reads one line of image signal along a

main scan direction from a transmission document sheet to generate a signal train representing black and white binary signals. It comprises an image pickup device such as a CCD (charge coupled device) and an optical system. The black and white binary signal train is outputted to a signal line 22a.

[0020]

Numeral 24 denotes an encoder which receives the read data outputted to the signal line 22a and outputs encoded data (MH (modified Huffmann) encoded, MR (modified READ) encoded or MMR (modified modified READ) encoded data) to a signal line 24a.

[0021]

Numeral 26 denotes a modulator which modulates a signal in accordance with the known CCITT Recommendation V. 27 ter (differential phase modulation), V. 29 (quadrature modulation) or V. 17. The modulator 26 receives the signal on the signal line 24a when the signal level '1' is outputted to a signal line 54f, modulates it and outputs the modulated data to a signal line 26a. The modulator 26 does nothing when the signal level '0' is outputted to the signal line 54f.

[0022]

Numeral 28 denotes a modulator which modulates a signal in accordance with V. 34 of which recommendation is now being investigated. When the signal

level '1' is outputted to a signal line 54g, the modulator 28 receives the signal on the signal line 24a, modulates it and outputs the modulated data to a signal line 28a. The modulator 28 does nothing when the signal level '0' is outputted to the signal line 54g.

[0023]

Numeral 30 denotes an adder circuit which receives the signals on the signal lines 16a, 18a, 20a, 26a and 28a and outputs a sum signal to a signal line 30a.

[0024]

Numeral 32 denotes a demodulator which demodulates a signal in accordance with the known CCITT Recommendation V. 21. The demodulator 32 receives the signal on a signal line 14c, demodulates it and outputs the demodulated data to a signal line 32a.

[0025]

Numeral 34 denotes a demodulator which demodulates a signal in accordance with V. 8 of which recommendation is now being investigated. The demodulator 34 receives the signal on the signal line 14c, demodulates it and outputs the demodulated data to a signal line 34a.

[0026]

Numeral 36 denotes a Q·PSK demodulator for

the protocol between image transmission pages using V. fast of which recommendation is now being investigated. The demodulator 36 receives the signal on the signal line 14c, Q·PSK demodulates it and outputs the demodulated data to a signal line 36a.

[0027]

Numeral 38 denotes a demodulator which demodulates a signal in accordance with the known CCITT Recommendation V. 27 ter (phase difference modulation), V. 29 (quadrature modulation) or V. 17. The demodulator 38 receives the signal on the signal line 14c, demodulates it and outputs the demodulated data to a signal line 38a.

[0028]

Numeral 40 denotes a demodulator which demodulates a signal in accordance with V. 34 of which recommendation is now being investigated. The demodulator 40 receives the signal on the signal line 14c, demodulates it and outputs the demodulated data to a signal line 40a.

[0029]

Numeral 42 denotes a decoder circuit which receives the signal outputted to the signal line 38a when the signal level '0' is outputted to a signal line 54h, receives the signal outputted to the signal line 40a when the signal level '1' is outputted

to the signal line 54h, and outputs encoded data (MH (modified Huffmann) encoded, MR (modified READ) encoded or MMR (modified modified READ) encoded data) to a signal line 42a.

[0030]

Numeral 44 denotes a record circuit which receives the data outputted to the signal line 42a and sequentially records it one line at a time.

[0031]

Numeral 46 denotes circuit which stores communication systems (particularly, the communication systems in accordance with V. 21, V. 27 ter, V. 29 and V. 17 or the communication systems in accordance with V. 8 and V. 34) in association with a telephone number of a transmit station (copartner or calling station) sent between call signals.

[0032]

Numeral 48 denotes a circuit which stores the date of registration of the communication system through a signal line 48a in association with the telephone number of the calling station sent between call signals.

[0033]

Numeral 50 denotes a circuit which counts the number of times of communication (reception) after the registration of the communication system through a signal line 50a in association with the

telephone number of the calling station sent between call signals.

[0034]

Numeral 52 denotes a console unit having a registration button used to store the communication system in association with the telephone number of the calling station sent between call signals, a ten-key, one-touch dial keys, abbreviation dial keys, a sent key, a start key and other function keys. The information corresponding to the depressed key is outputted to a signal line 52a.

[0035]

Numeral 54 denotes a control circuit which, in the facsimile apparatus capable of detecting the telephone number information sent between call signals, has means for storing the communication system for the calling station in accordance with the telephone number information and call signal detection means and primarily controls the start of the communication by the stored communication system in accordance with the telephone number information sent between call signals when the call signal is detected. The communication systems may be the communication systems based on V. 21, V. 27 ter, V. 29 and V. 17 or the communication systems based on V. 8 and V. 34.

[0036]

Figs. 2 and 3 show flow charts of the control of the control circuit 54. The circuits 48 and 50 are not used here.

[0037]

In Fig. 2, a step S60 represents the start.

[0038]

In a step S62, the signal level '0' is outputted to the signal line 54a to turn of the CML relay 2, that is, connect the signal lines 2a and 2b to the signal lines 10a and 10b.

[0039]

In a step S64, the signal level '0' is outputted to the signal line 54b to turn off the TEL relay 4, that is, connect the signal lines 5a and 6b to the signal lines 8a and 8b.

[0040]

In a step S66, the signal level '0' is outputted to the signal line 54f to set a state which does not use the V. 27 ter, V. 29 or V. 17 modulator 26.

[0041]

In a step S68, the signal level '1' is outputted to the signal line 54g to set a state which uses the V.34 modulator 28.

[0042]

In a step S70, the signal level '1' is outputted to the signal line 54h to set a state in

which decoder circuit 42 receives the signal on the signal line 40a.

[0043]

In a step S72, whether the registration of the communication system in association with the telephone number between call signals has been selected or not is determined, and if the registration has been selected, the process proceeds to a step S74 to register the communication system (the first communication system based on V. 21, V. 27 ter, V. 29 and V. 17 or the second communication system based on V. 8 and V. 34) in association with the telephone number of the call signal to the circuit 46, and if the registration has not been selected, the process proceeds to a step S76.

[0044]

In the step S76, the information on the signal line 10a is received and whether the call signal has been detected or not is determined. If the call signal has been detected, the process proceeds to a step S80, and if the call signal has not been detected, the process proceeds to a step S78 to execute other process.

[0045]

In the step S80, the information of the circuit 46 is checked to determine whether the telephone number between call signals is for the

first communication system based on V. 21, V. 27 ter, V. 29 and V. 17, and if it is for the first communication system based on V. 21, V. 27 ter, V. 29 and V. 17, the process proceeds to a step S82, and if it is for the second communication system based on V. 8 and V. 34, the process proceeds to a step S96.

[0046]

In the step S82, the signal level '1' is outputted to the signal line 54f to set a state which uses the V.27 ter, V.29 or V.17 modulator 26.

[0047]

In the step S84, the signal level '0' is outputted to the signal line 54g to set a state which does not use the V.34 modulator 28.

[0048]

In a step S86, the signal level '0' is outputted to the signal line 54h to set a state in which the decoder circuit 42 receives the information on the signal line 38a.

[0049]

In a step S88 of Fig. 3, the signal level '1' is outputted to the signal line 54a to turn on the CML relay 2.

[0050]

A step S90 represents a pre-protocol based on V. 21.

[0051]

A step S92 represents to execute image transmission in accordance with V.27 ter, V. 29 or V. 17.

[0052]

A step S94 represents a post protocol based on V. 21.

[0053]

In a step S96, the signal level '1' is outputted to the signal line 54a to turn on the CML relay 2.

[0054]

A step S98 reprsents a pre-protocol based on V. 8.

[0055]

A step S100 represents to execute image transmission in accordance with V. 34. A Q·PSK protocol is executed between pages.

[0056]

A step S102 represents a post protocol in accordance with Q·PSK.

[0057]

In accordance with the Embodiment 1, the communication system of the calling station is stored in the memory circuit 46 in association with the telephone number between call signals which allows the identification of the telephone number of the

calling station prior to the line connection, the telephone number between call signals is detected before the line connection, the communication system of the calling station for the detected telephone number is read from the memory circuit 46, the communication system of its own apparatus is set to be compatible to the communication system of the calling station before the line connection, and the communication is started. Thus, in the apparatus having a plurality of totally different communication systems such as the communication system based on V. 27 ter, V. 29 and V. 17 and the communication system based on V. 34, the pre-protocol with the calling station can be shortened and the communication cost can be reduced. (In the apparatus having the totally different communication systems, normally, the predetermined pre-protocols are sequentially executed for each communication system to detect the communication system of the calling station, and the pre-protocol time is long.)

[0058]

Further, a chance to misrecognize the communication system of the calling station is reduced.

[0059]

(Embodiment 2)

In the above embodiment, when the detected telephone number between call signals is not

registered in the circuit 46, or when the telephone number is not sent between call signals, the pre-protocol based on V. 8 may be executed and the image transmission by V. 27 ter, V. 29 or V. 17 or the image transmission by V. 34 may be determined in accordance with the ability of the calling station.

[0060]

A specific example of the above control is shown in Fig. 4 for those portions which are different from the flow charts of Figs. 2 and 3.

[0061]

In Fig. 4, a step S110 represents YES in the step S76.

[0062]

In the step S112, the information on the signal line 12a is received and whether the telephone number is present between call signals and the detected telephone number is registered in the circuit 46 or not is determined. If YES, the process proceeds to a step S114 (the step S80 of Fig. 2), and if NO, the process proceeds to a step S116.

[0063]

In a step S116, the signal level '1' is outputted to the signal line 54a to turn on the CML relay 2, that is, connect the signal lines 2a and

2b to the signal lines 14a and 14b.

[0064]

A step S118 represents a pre-protocol based on V. 8. The communication system of the calling station is determined in this step.

[0065]

In a step S120, whether the V. 34 function is equipped or not is determined. If it is equipped, the process proceeds to a step S122 (the step S100 of Fig. 3) to execute the image transmission by V. 34, and if it is not equipped, the process proceeds to a step S124 (the step S82 of Fig. 2).

[0066]

In accordance with the Embodiment 2, if the telephone number between call signals is not sent or the telephone number of the calling station is not registered, the communication by V. 8 is executed so that the communication can be shifted to any communication system. Thus, a case in which the communication with the calling station is not established because the communication system is not identified before the line connection is avoided.

[0067]

(Embodiment 3)

In the above embodiment, when a call is received from the telephone number between call signals for the first time, the communication may

be executed by the communication system which allows any communication system because the mode of the calling station is not known, and that communication system is stored, and when a predetermined time is elapsed or a predetermined call reception circuit operates, the communication system is again determined for the same calling station and it is stored.

[0068]

A specific example of the above control is shown in Figs. 5 and 6 for those portions which are different from the flow charts of Figs. 2 and 3.

[0069]

Step S130 represents YES in the step S76 in Fig. 2.

[0070]

In the step S132, the information on the signal line 12a is received and whether the telephone number between call signals is sent or not is determined. If it is sent, the process proceeds to a step S136, and if it is not sent, the process proceeds to a step S134.

[0071]

The step S134 represents the step S116 in Fig. 4.

[0072]

In the step S136, whether the telephone

number between call signals is registered in the circuit 46 or not is determined. If it is registered, the process proceeds to a step S152, and if it is not registered, the process proceeds to a step S138.

[0073]

In the step S138, the signal level '1' is outputted to the signal line 54a to turn on the CML relay 2, that is, connect the signal lines 2a and 2b to the signal lines 14a and 14b.

[0074]

A step S140 represents a pre-protocol based on V. 8. In the step, the communication system of the calling station is determined.

[0075]

In a step S142, whether the V. 34 function is equipped or not is determined, and if it is equipped, the process proceeds to a step S144. If it is not equipped, the process proceeds to a step S146.

[0076]

In the step S144, the communication system by V. 8 or V. 34 in association with the detected telephone number between call signals is registered.

[0077]

In the step S146, the communication system by V. 21, V. 27 ter, V. 29 or V. 17 in association with the detected telephone number between call

signals is registered in the circuit 46.

[0078]

In a step S148, the date of registration in association with the detected telephone number between call signals is stored in the circuit 48 and a reception counter in the circuit 50 is cleared.

[0079]

Step S150 represents the step S80 of Fig. 3.

[0080]

In a step S152 of Fig. 6, the information in the circuit 48 is read to determine whether the telephone number between call signals has elapsed one half year from the registration date or not. If it is, the process proceeds to a step S138, and if it is not, the process proceeds to a step S154.

[0081]

In the step S154, the information in the circuit 50 is read to determine whether the telephone number between call signals has been received over 200 time or not. If it is, the process proceeds to a step S138, and if it is not, the process proceeds to a step S156.

[0082]

In the step S156, the reception counter is incremented by one in association with the detected telephone number between call signals and it is registered in the circuit 50.

[0083]

Step S158 represents the step S80 of Fig. 2.

[0084]

Steps S160 and S162 respectively represent the steps S70 and S76 in Fig. 2 and also represent to delete the steps S72 and S74.

[0085]

In accordance with the Embodiment 4, the communication system by V. 8 which permits the shift to any communication system is set for the first communicating calling station to prevent the occurrence of communication error due to incompatibility of the communication system with the calling station at the first communication.

[0086]

Further, since the communication system which resulted in the successful communication with the calling station is stored in association with the telephone number of the calling station, the communication system can be established before the line connection at the next communication with that calling station and the pre-protocol time is shortened and the communication cost is reduced.

[0087]

(Embodiment 4)

In the Embodiment 3, when calling is selected for the telephone number information having the

communication system of the calling station stored in association with the telephone number information between call signals, that communication system may be stored.

[0088]

A specific example of the above control is shown in Fig. 7 for those portions which are different from the control flow charts of Figs. 5 and 6.

[0089]

Step S164 in Fig. 7 represents the step S78 in Fig. 2.

[0090]

In the step S166, whether calling has been selected or not is determined. If it is selected, the process proceeds to a step S168, and if it is not selected, the process proceeds to a step S190.

[0091]

In the step S168, a designated station is called.

[0092]

In a step S170, the signal level '1' is outputted to the signal line 54a to turn on the CML relay 2.

[0093]

In a step S172, whether the designated station is registered in the circuit 46 or not is determined. If it is registered, the process

proceeds to a step S174, and if it is not registered, the process proceeds to a step S192.

[0094]

The step S174 represents a pre-protocol. When the V. 8 pre-protocol signal from a called station is to be detected, the V. 8 pre-protocol is executed, and when the V. 21 protocol signal from the called station is to be detected, the V. 21 pre-protocol is executed.

[0095]

Step S176 represents image transmission. The image is transmitted by the communication system (V. 27 ter, V. 29, V. 17 or V. 34) determined in the pre-protocol.

[0096]

A step S178 represents a post protocol.

[0097]

In a step S180, the signal level '0' is outputted to the signal line 54a to turn off the CML relay 2.

[0098]

In a step S182, whether the image transmission was by V. 34 or not is determined, and if it was, the process proceeds to a step S184, and if it was by V. 27 ter, V. 29 or V. 17, the process proceeds to a step S186.

[0099]

Steps S184, S186 and S188 respectively represent the steps S144, S146 and S148 in Fig. 5.

[0100]

Step S190 represents the step S62 in Fig. 2.

[0101]

In a step S192, the pre-protocol which is the same as that in the step S174 is executed. In a step S194, the image transmission which is the same as that in the step S176 is executed. In a step S196, the post-protocol which is the same as that in the step S178 is executed.

[0102]

In accordance with the Embodiment 4, when the call is made to the station registered in the circuit 46, the communication system used for the communication is stored in the circuit 46 in association with the communicated station after the completion of the communication. Thus, the content of the circuit 46 is updated at the transmission and the calling station can rapidly conform to the change of function by the updating of the called station.

[0103]

(Embodiment 5)

In the Embodiment 4, when the call is selected, the communication system may be stored even for the telephone number information having

the communication system of the called station not stored, in accordance with the telephone number information between call signals.

[0104]

A specific example of the above control is shown in Fig. 8 for those portions which are different from the control flow chart of Fig. 7.

[0105]

In Fig. 8, steps S200 and S202 respectively represent the steps S170 and S174 in Fig. 7.

0106

In accordance with the Embodiment 5, when the call is made to the station not stored in the circuit 46, the communication system used in the communication with the called station is stored in association with the telephone number information of the called station after the completion of the communication. Thus, once called, the communication system is automatically stored in the circuit 46 and an operator time is saved.

[0107]

[Effect of the Invention]

As has been described above, according to the claim 1 of the present invention, protocol which is suited to a partner's transmitter can be executed promptly corresponding to a communication type (or system) of the partner's transmitter, by

which a reduction in time required to execute the protocol and reliability can be ensured.

[0108]

According to the claim 2 of the present invention, the communication system of the partner's transmitter can be automatically determined upon initial communication therewith and even when the communication system is changed on the partner's transmitter side, an accurate countermeasure can be taken against this situation.

[0109]

According to the claim 3 of the present invention, the communication system of the partner's transmitter can be stored in accordance with a communication mode at a time when a call signal is transmitted, by which accurate updating of the communication system can be realized.

[0110]

According to the claim 4 of the present invention, the controlling operation according to each of V. 27 ter, V. 29, V. 17 and V. 34 which are different from one another in communication system can be realized.

[Brief Description of the Drawings]

[Figure 1]

A block diagram of an embodiment of a facsimile apparatus according to the present invention.

[Figure 2]

A flow chart of control of a control circuit 54 of Fig. 1.

[Figure 3]

A flow chart of control of the control circuit 54 of Fig. 1.

[Figure 4]

A flow chart of control of the control circuit 54 of Fig. 1.

[Figure 5]

A flow chart of control of the control circuit 54 of Fig. 1.

[Figure 6]

A flow chart of control of the control circuit 54 of Fig. 1.

[Figure 7]

A flow chart of control of the control circuit 54 of Fig. 1.

[Figure 8]

A flow chart of control of the control circuit 54 of Fig. 1.

[Description of Reference Numerals or Symbols]

2 ... CML relay

4 ... TEL relay

6 ... telephone set

8 ... off-hook detection circuit

10 ... call signal detection circuit

12 ... telephone number information detection circuit

14 ... hybrid circuit

16 ... V. 21 modulator

18 ... V. 8 modulator

20 ... Q·PSK modulator

22 ... reading circuit

24 ... encoding circuit

26 ... V. 27 ter, V. 29, V 17 modulator

28 ... V. 34 modulator

30 ... adder circuit

32 ... V. 21 demodulator

34 ... V. 8 demodulator

36 ... Q·PSK demodulator

38 ... V. 27 ter, V. 29, V. 17 demodulator

40 ... V. 34 demodulator

42 ... decoding circuit

44 ... recording circuit

46 ... partner's transmitter telephone number corresponding communication system storage circuit

48 ... partner's transmitter telephone number communication system registration date storage circuit

50 ... circuit for counting the number of times of communication conducted after the partner's transmitter telephone number communication

has been registered.

52 ... console unit

54 ... control circuit

[NAME OF THE DOCUMENT] Abstract

[Abstract]

[Object]

An object of the present invention is to store the communication system of a partner's transmitter so as to simplify a pre-protocol for communication.

[Constitution]

The communication system of the partner's transmitter is stored in a circuit 46 corresponding to the telephone number thereof, the telephone number is detected by a circuit 12 in the intervals of call signals and the communication system of the partner's transmitter corresponding to the telephone number is read out from a circuit 46 to perform a switching operation for determining whether each modulation/demodulation circuit is used or not.

[Elected Drawing] Figure 1